

09/751299
STN Search Summary

=> d his

FILE 'CAPLUS' ENTERED AT 15:46:19 ON 26 MAR 2003

L1 836 S NITRILASE OR (NITRILE (2W) HYDRATASE)
L2 187 S L1 AND (CYANO? OR CYANIDE)
L3 50 S L2 AND (?CARBOXYLIC (2W) ACID)
L4 20 S L3 AND (STEREO? OR REGIO? OR ENANTIO?)

L4 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2003 ACS

AN 2003:229543 CAPLUS

TI Purification, cloning, sequencing and over-expression in *Escherichia coli* of a regioselective aliphatic nitrilase from *Acidovorax facilis* 72W

AU Chauhan, S.; Wu, S.; Blumberman, S.; Fallon, R. D.; Gavagan, J. E.; DiCosimo, R.; Payne, M. S.

SO Applied Microbiology and Biotechnology (2003), 61(2), 118-122

L4 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2003 ACS

AN 2003:6085 CAPLUS

TI Bacterial nitrilase and gene sequences exhibiting stereoselectivity useful for synthesis of chiral reaction products
IN Madden, Mark; Desantis, Grace; Chaplin, Jennifer Ann; Weiner, David Paul; Milan, Aileen; Chi, Ellen; Short, Jay M.; Burk, Mark
PA Diversa Corporation, USA; Madden, Darcy

SO PCT Int. Appl., 560 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003000840	A2	20030103	WO 2002-US15983	20020515
PRAI	US 2001-300189P	P	20010621		
	US 2001-309006P	P	20010730		
	US 2002-351336P	P	20020122		

L4 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2003 ACS

AN 2002:525755 CAPLUS

TI An enzyme library approach to biocatalysis: development of nitrilases for enantioselective production of carboxylic acid derivatives

AU DeSantis, Grace; Zhu, Zuolin; Greenberg, William A.; Wong, Kelvin; Chaplin, Jenny; Hanson, Sarah R.; Farwell, Bob; Nicholson, Lawrence W.; Rand, Cynthia L.; Weiner, David P.; Robertson, Dan E.; Burk, Mark J.

CS Diversa Corporation, San Diego, CA, 92121, USA

SO Journal of the American Chemical Society (2002), 124(31), 9024-9025

L4 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2002:123237 CAPLUS
 TI Preparation of dicarboxylic acid monoesters from
 cyanocarboxylic acid esters
 IN Chauhan, Sarita; Dicosimo, Robert; Fallon, Robert D.; Gavagan, John E.;
 Payne, Mark S.
 PA E. I. Du Pont de Nemours and Company, USA
 SO PCT Int. Appl., 31 pp.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012527	A2	20020214	WO 2001-US24299	20010803
WO 2002012527	A3	20020822		
US 6455730	B1	20020924	US 2000-632419	20000804
AU 2001079159	A5	20020218	AU 2001-79159	20010803
PRAI US 2000-632419	A	20000804		
WO 2001-US24299	W	20010803		

OS CASREACT 136:166162; MARPAT 136:166162

L4 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2001:878920 CAPLUS
 TI (E)-Selective hydrolysis of (E,Z)-.alpha.,.beta.-unsaturated nitriles by
 the recombinant nitrilase AtNIT1 from Arabidopsis thaliana
 AU Effenberger, Franz; Osswald, Steffen
 SO Tetrahedron: Asymmetry (2001), 12(18), 2581-2587

L4 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2001:747978 CAPLUS
 TI Isolation and expression of a gene for a nitrilase from
 Acidovorax facilis 72W and use of recombinant nitrilase as a
 biocatalyst
 IN Fallon, Robert D.; Payne, Mark S.; Chauhan, Sarita; Dicosimo, Robert
 PA E.I. Dupont De Nemours and Company, USA; Gavagan, John, E.
 SO PCT Int. Appl., 67 pp.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001075077	A2	20011011	WO 2001-US10481	20010330
WO 2001075077	A3	20021017		
WO 2001075077	C1	20021219		
EP 1280892	A2	20030205	EP 2001-922985	20010330
PRAI US 2000-193707P	P	20000331		
WO 2001-US10481	W	20010330		

OS MARPAT 135:315314

L4 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2001:669871 CAPLUS
 TI Enzymatic routes to enantiomerically pure aromatic
 .alpha.-hydroxy carboxylic acids: a further example
 for the diversity of biocatalysis
 AU Groger, Harald
 SO Advanced Synthesis & Catalysis (2001), 343(6+7), 547-558

L4 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2003 ACS

AN 2001:489604 CAPLUS

TI Producing enantiomerically pure .alpha.-substituted
carboxylic acids using stereospecific
nitrilases in the presence of Strecker reagents

IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann

PA Diversa Corp., USA; Madden, Darcy

SO PCT Int. Appl., 87 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001048175	A2	20010705	WO 2000-US35555	20001229
	WO 2001048175	A3	20020214		
	US 2002012974	A1	20020131	US 2000-751299	20001228
	EP 1242589	A2	20020925	EP 2000-989578	20001229
PRAI	US 1999-173609P	A2	19991229		
	US 2000-254414P	A2	20001207		
	WO 2000-US35555	W	20001229		
OS	CASREACT 135:89140; MARPAT 135:89140				

L4 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2003 ACS

AN 2000:254122 CAPLUS

TI Preparation of chiral carboxylic acids from racemic
nitriles by resolution with a stereospecific nitrilase
or nitrilase-containing microorganisms

IN Ress-loeschke, Marion; Friedrich, Thomas; Hauer, Bernhard; Mattes, Ralf;
Engels, Dirk

PA BASF A.-G., Germany

SO Ger. Offen., 28 pp.

LA German

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19848129	A1	20000420	DE 1998-19848129	19981019
	WO 2000023577	A1	20000427	WO 1999-EP7679	19991013
	AU 9964708	A1	20000508	AU 1999-64708	19991013
	BR 9914629	A	20010626	BR 1999-14629	19991013
	EP 1123386	A1	20010816	EP 1999-952558	19991013
	EE 200100232	A	20020815	EE 2001-200100232	19991013
	JP 2002527106	T2	20020827	JP 2000-577288	19991013
	NO 2001001912	A	20010418	NO 2001-1912	20010418
	ZA 2001004066	A	20020701	ZA 2001-4066	20010518
PRAI	DE 1998-19848129	A	19981019		
	WO 1999-EP7679	W	19991013		
OS	MARPAT 132:292813				

L4 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:618329 CAPLUS
 TI Nitrile hydratase and amidase genes recombinant
 production in host cells and use for the production of chiral amides and
 carboxylic acids
 IN Fallon, Robert Donald; Nelson, Mark James; Payne, Mark Scott
 PA E. I. Du Pont De Nemours and Company, USA
 SO U.S., 37 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 5811286	A	19980922	US 1996-726136	19961004
	US 5888785	A	19990330	US 1998-103411	19980624
	US 6133421	A	20001017	US 1998-103434	19980624
	US 6251650	B1	20010626	US 2000-687594	20001013
PRAI	US 1995-4914P	P	19951006		
	US 1996-726136	A3	19961004		
	US 1998-103434	A3	19980624		

L4 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 1996:367768 CAPLUS
 TI Method of producing optically active .alpha.-hydroxy acid or
 .alpha.-hydroxyamide
 IN Tamura, Koji
 PA Nitto Chemical Industry Co., Ltd., Japan
 SO Eur. Pat. Appl., 10 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 711836	A1	19960515	EP 1995-307976	19951108
	EP 711836	B1	20000202		
	R: DE, FR, GB				
	JP 08131188	A2	19960528	JP 1994-299109	19941109
	JP 3119468	B2	20001218		
	US 5736385	A	19980407	US 1995-556085	19951109
PRAI	JP 1994-299109	A	19941109		

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
 AN 2001:489604 CAPLUS
 DN 135:89140
 TI Producing enantiomerically pure .alpha.-substituted carboxylic acids using stereospecific **nitrilases** in the presence of **Strecker** reagents
 IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann
 PA Diversa Corp., USA; Madden, Darcy
 SO PCT Int. Appl., 87 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001048175	A2	20010705	WO 2000-US35555	20001229
	WO 2001048175	A3	20020214		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 2002012974	A1	20020131	US 2000-751299	20001228
	EP 1242589	A2	20020925	EP 2000-989578	20001229
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRAI	US 1999-173609P	A2	19991229		
	US 2000-254414P	A2	20001207		
	WO 2000-US35555	W	20001229		
OS	CASREACT 135:89140; MARPAT 135:89140				

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
 AN 2000:598000 CAPLUS
 DN 133:295394
 TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
 AU Wegman, M. A.; Heinemann, U.; Stolz, A.; van Rantwijk, F.; Sheldon, R. A.
 CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
 SO Organic Process Research & Development (2000), 4(5), 318-322
 CODEN: OPRDFK; ISSN: 1083-6160
 PB American Chemical Society
 DT Journal
 LA English
 RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 13:32:39 ON 26 MAR 2003)

FILE 'CAPLUS' ENTERED AT 13:32:45 ON 26 MAR 2003

L1 2 S STRECKER AND NITRILASE

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
 AN 2000:598000 CAPLUS
 DN 133:295394
 TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
 AU Wegman, M. A.; Heinemann, U.; Stolz, A.; van Rantwijk, F.; Sheldon, R. A.
 CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
 SO Organic Process Research & Development (2000), 4(5), 318-322
 CODEN: OPRDFK; ISSN: 1083-6160
 PB American Chemical Society
 DT Journal
 LA English
 CC 16-2 (Fermentation and Bioindustrial Chemistry)
 Section cross-reference(s): 7
 AB The hydration of D-phenylglycine nitrile to the corresponding amide, mediated by nitrile hydratase-contg. microorganisms, was studied. Batch and fed-batch reactions were compared with regard to decompn. and racemization of the chem. labile substrate. A batch process gave satisfactory results and at up to 25 mM D-phenylglycine nitrile (D-1), D-phenylglycine amide was obtained in 94% yield with 92% ee using an immobilized Rhodococcus sp. (NOVO SP 361). The enzyme could be reused, although it slowly lost its activity. When the concn. of D-phenylglycine nitrile was increased to 100 mM in a batch reaction rapid decompn. of the substrate was obsd. and D-phenylglycine amide was obtained in only 37% yield. A fed-batch reaction afforded an improved yield, although the decompn. of the substrate could not be avoided completely. Lowering the temp. stabilized the substrate, and a fed-batch reaction at 5 .degree.C resulted in a 96% yield of D-phenylglycine amide with 95% ee. A no. of other whole-cell hydratase/amidase systems also hydrated D-1 in nearly quant. yield and >94% ee. Moreover, the ee was further increased to >99% upon prolonged reaction times with minimal loss in yield due to the action of the L-specific amidase that is present in these biocatalysts.
 ST Rhodococcus immobilized nitrile hydratase phenylglycine nitrile hydration
 IT Rhodococcus
 (NOVO SP 361; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT Amination
 (Strecker, retro-; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT Fermentation
 (batch; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT Immobilization, biochemical
 (microbial cell; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT Hydration, chemical
 (selective, enzymic; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT Rhodococcus erythropolis
 Rhodococcus globerulus
 Rhodococcus rhodochrous
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT 100-52-7, Benzaldehyde, biological studies
 RL: ADV (Adverse effect, including toxicity); FMU (Formation, unclassified); BIOL (Biological study); FORM (Formation, nonpreparative)
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
 IT 6485-67-2P, D-Phenylglycine amide
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
 (stereoretentive nitrile hydratase catalyzed hydration of

D-phenylglycine nitrile)

IT 9024-90-2, Nitrilase
 RL: BPR (Biological process); BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)

IT 45789-64-8 66116-54-9
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)

IT 7664-41-7, Ammonia, formation (nonpreparative)
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Anon; 1973 CAPLUS
- (2) Anon; 1978 CAPLUS
- (3) Anon; 1992 CAPLUS
- (4) Anon; 1992 CAPLUS
- (5) Arnaud, A; Bull Soc Chim Fr II 1980, P87 CAPLUS
- (6) Bauer, R; Appl Microbiol Biotechnol 1998, V42, P1
- (7) Bhalla, T; Appl Microbiol Biotechnol 1992, V37, P184 CAPLUS
- (8) Boesten, W; EP 442584 1991 CAPLUS
- (9) Boesten, W; EP 442585 1991 CAPLUS
- (10) Bruggink, A; Org Process Res Dev 1998, V2, P128 CAPLUS
- (11) Choi, S; Arch Pharmacol Res 1986, V9, P45 CAPLUS
- (12) Clark, J; J Chem Soc Perkin Trans I 1976, P475 CAPLUS
- (13) Elferink, V; Recl Trav Chim Pays-Bas 1991, V110, P63 CAPLUS
- (14) Fukuda, Y; J Ferment Technol 1971, V49, P1011 CAPLUS
- (15) Gerhardt, P; Methods for General and Molecular Bacteriology 1994
- (16) Hunter-Cevera, J; Manual of Industrial Microbiology and Biotechnology 1999, P3
- (17) Hylton, T; US 4072698 1978 CAPLUS
- (18) Kobayashi, M; Appl Microbiol Biotechnol 1996, V45, P176 CAPLUS
- (19) Layh, N; Appl Microbiol Biotechnol 1997, V47, P668 CAPLUS
- (20) Macadam, A; Biotechnol Lett 1985, V7, P865 CAPLUS
- (21) Matthews, G; FR 2141354 1971 CAPLUS
- (22) Nagasawa, T; Eur J Biochem 1991, V196, P581 CAPLUS
- (23) Ospiran, I; J Mol Catal B: Enzymatic 1999, V6, P555
- (24) Patel, R; Stereoselective Biocatalysis 2000, P23
- (25) Pfennig, M; Arch Mikrobiol 1966, V55, P245
- (26) Rainey, F; Microbiology 1995, V141, P523 CAPLUS
- (27) Reilen, H; Liebigs Ann Chem 1936, V523, P199
- (28) Stolz, A; J Mol Catal B: Enzymatic 1998, V5, P137 CAPLUS
- (29) Sugiura, Y; J Am Chem Soc 1987, V109, P5848 CAPLUS
- (30) Taillades, J; Bull Soc Chim Fr 1995, V132, P119 CAPLUS
- (31) Wegman, M; J Mol Catal B: Enzymatic, in press 2000

09/751299
STN Search Summary

=> d his

FILE 'CAPLUS' ENTERED AT 16:33:24 ON 26 MAR 2003

L1 262 S STRECKER (2W) SYNTHESIS?
L2 152 S L1 AND (AMINO (2W) ACID?)
L3 46 S L1 AND (CHIRAL?)
L4 2 S L3 AND CARBOXYL?
L5 7 S L3 AND ?CARBOXYL?
L6 5 S L5 NOT L4
L7 59 S L1 AND NITRIL?
L8 0 S L1 AND (NITRILASE OR (NITRILE (2W) HYDRATASE))
L9 17 S L1 AND REVIEW/DT

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS

AN 2002:846194 CAPLUS

TI Carbocyclic .alpha.,.beta.-diamino acids: asymmetric Strecker synthesis of stereomeric 1,2-diaminocyclohexanecarboxylic acids

AU Pai Fondekar, Kamalesh P.; Volk, Franz-J.; Khaliq-uz-Zaman, S. M.; Bisel, Philippe; Frahm, August W.

SO Tetrahedron: Asymmetry (2002), 13(20), 2241-2249

L6 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS

AN 2000:656732 CAPLUS

TI Carbocyclic .alpha.-amino acids: asymmetric Strecker synthesis of a series of 2-alkylated 1-aminocyclopentanecarboxylic acids

AU Wede, Judith; Volk, Franz-J.; Frahm, August W.

SO Tetrahedron: Asymmetry (2000), 11(15), 3231-3252

L9 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS

AN 1998:452573 CAPLUS

TI Stereoselective syntheses using carbohydrates as carriers of chiral information

AU Kunz, Horst; Hofmeister, Armin; Glaser, Bjorn

CS Johannes Gutenberg-Universitat Mainz, Mainz, Germany

SO Polysaccharides (1998), 539-567. Editor(s): Dumitriu, Severian. Publisher: Dekker, New York, N. Y.

DT Conference; General Review

L9 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS

AN 1997:141855 CAPLUS

TI New strategies to .alpha.-alkylated .alpha.-amino acids

AU Wirth, Thomas

SO Angewandte Chemie, International Edition in English (1997), 36(3), 225-227

L9 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS

AN 1997:55720 CAPLUS

TI Asymmetric catalysis of the Strecker amino acid synthesis by a cyclic dipeptide

AU Iyer, M. S.; Gigstad, K. M.; Namdev, N. D.; Lipton, M.

CS Department Chemistry, Purdue University, West Lafayette, IN, 47907, USA

SO Amino Acids (1996), 11(3-4), 259-268

L9 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1996:621179 CAPLUS
TI Syntheses of fluorinated amino acids. From the classical to the modern
concept
AU Tolmann, V.
SO Amino Acids (1996), 11(1), 15-36

L9 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1994:245702 CAPLUS
TI Recent developments in the stereoselective synthesis of .alpha.-amino
acids
AU Duthaler, Rudolf O.
SO Tetrahedron (1994), 50(6), 1539-650

WEST Search History

DATE: Wednesday, March 26, 2003

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,EPAB,DWPI; PLUR=YES; OP=OR</i>			
L3	L2 and (stereoselect\$ or chiral\$)	17	L3
L2	\$nitrilase same (carboxylate or (carboxylic adj acid) or amino adj acid)	105	L2
L1	\$nitrilase and (carboxylate or (carboxylic adj acid))	156	L1

END OF SEARCH HISTORY